

Office Action Summary

Application No.

09/164,682

Applicant(s)

OTSUKA ET AL.

Examiner

Shervin Nakhjavan

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-17, 19, 21-36, 38, 40-55, and 57-82 is/are allowed.
- 6) ☒ Claim(s) 1, 18, 20, 37, 39, and 56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1, 20, and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Fogel (US 6,008,865).

Regarding claims 1, 20, and 39, Fogel teaches limitation of 1, a method for extracting image features from an image sequence in which frames indicating images are time-sequentially arranged with respect to time, said method comprising the steps of: (a) inputting the image sequence (Column 4, Lines 53); (b) acquiring a motion trajectory of an image contour of a target included within a region defined by an arbitrary spatial range and time range within the image sequence input by said step (a), as three-dimensional volume data drawn within a spatiotemporal space in which each of the frames is time-sequentially stacked (Column 6, Lines 31, where contour of object is defined interactively originally Col. 3, Lns. 35-38); and (c) measuring temporal features and spatial features of the image from the motion trajectory which is acquired as the three-dimensional volume data by said step (b) (Column 6, Lines 47-60, where spatial and temporal features of pixels of image is determined and classified);

limitation of claims 20, means of performing method of claim 1 (Column 4, Lines 43-53);

limitation of claim 39, programming of method of claim 1 (Column 6, Line 9 through Column 7, Line 34).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 18, 37, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fogel in view of Bender et al. (US 5,657,402).

Regarding claims 18, 37, and 56, Fogel teaches number of limitations as stated above however, Fogel fails to specifically teach, three-dimensional volume data is obtained by forming difference images among the frames. Bender teaches, limitation of claim 18, the three-dimensional volume data is obtained by forming difference images among the frames in time sequence, and stacking the formed difference images (Column 15, Line 26 through Column 16, Line 31);

limitation of claim 37, and 56, equipment and programming are inherent in the method claim above.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize Bender's difference image technique because, to eliminate processing of unnecessary background region.

Allowable Subject Matter

5. The following is an examiner's statement of reasons for allowance: Claims 2-17, 19, 21-36, 38, 40-55, and 57-82 are allowed because prior art of record does not teach acquiring histogram of one of tangent planes tangent to motion trajectory of claims 2-3 and detecting tangent planes tangent to the motion trajectory and extracting as an image a distribution of motion trajectory existing on the tangent planes detected by detecting method of claim 13.

Other prior art cited

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 5,633,728 to Tachihara et al. is cited for image processing method.

US Patent 5,587,927 to Nagao et al. is cited for detecting apparatus for detecting a contour of a moving region in a dynamic image.

Contact information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shervin Nakhjavan whose telephone number is (703) 306-5916. The examiner can normally be reached on Monday through Friday from 8:00 am to 5:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached at (703) 305-4706.

Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, DC 20231

Or faxed to:

(703) 308-6606 OR (703) 308-5397 (for **formal** communications, please mark "EXPEDITED PROCEDURE")

or:

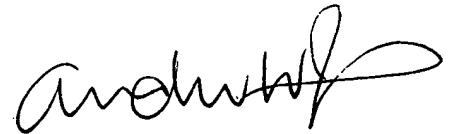
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(703) 306-5406 (for **informal** or **draft** communications; please label "PROPOSED" or "DRAFT").

Hand delivered responses should be brought to Crystal Park 2, 2121 Crystal drive, Arlington, VA, sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Tech center 2700 customer service office **(703) 306-5631**.

Shervin Nakhjavan *S.N.*
Patent Examiner
Group Art Unit 2621
November 21, 2000.



**ANDREW W. JOHNS
PRIMARY EXAMINER**